

GENERAL FEATURES

A. SURVEY AREA

This A/P III study report covers a 17-county region composed of the upper drainage basins of the Neuse, Tar, Roanoke, and Meherrin rivers in the Coastal Plain and Piedmont Provinces of North Carolina. The 17 counties included in this report are Durham, Edgecombe, Franklin, Granville, Greene, Halifax, Johnston, Lenoir, Nash, Northampton, Orange, Person, Vance, Wake, Warren, Wayne, and Wilson (Figure 2). Because this report focuses on the upper drainage basins of the Neuse, Tar, and Roanoke rivers, portions of some of the 17 counties are excluded from this report (see Figure 1). Such counties include Granville, Orange, Person, Vance and Warren, which are only about half covered in this report.

These 17 counties show a wide range in population (Table 1). Seven of these counties contain fewer than 50,000 people each, according to the 1990 census, whereas three contain over 100,000 people each, and one contains over 400,000 people. The major population centers and areas of most rapid development in the A/P III study area are Raleigh, Durham, Chapel Hill, and Cary.

B. TOPOGRAPHY AND PHYSIOGRAPHY

The 17-county study area lies in the middle and upper regions of the western portion of the Coastal Plain and in the northeastern portion of the Piedmont. Throughout the 17-county study area the topography is mostly subdued, ranging from flat to gently rolling hills. The middle and upper regions of the Coastal Plain are well drained and flat to gently rolling, except along streams and near the western border of the Coastal Plain where the land is often more dissected and rolling. The topography in the Piedmont consists of well rounded hills and long rolling ridges with a northeast-southwest trend. In the eastern portion of the Piedmont is a group of prominent hills and ridges, locally called mountains, that are the remains of an ancient continuous mountain chain now largely reduced by erosion (Stuckey 1965). Also called monadnocks, these hills and ridges include Occoneechee Mountain in Orange County, Bowling's Mountain in Granville County, and Hager's Mountain in Person County. In the A/P III study area, elevations range from about 20 feet in the eastern counties of the Middle Coastal Plain to over 860 feet at the summit of Occoneechee Mountain in Orange County in the Piedmont.

The Coastal Plain part of the A/P III study area includes a series of north-south trending scarps that were former shorelines when the Atlantic Ocean was higher and extended much farther inland than at present. Such scarps show only a 10-15 foot drop in elevation from the higher terrace on the west to the lower terrace on the east. Terraces, which formed in shallow seas when